VILLAGE OF DEERFIELD
ANNUAL WATER QUALITY REPORT

The Village of Deerfield strives to produce the best quality drinking water possible. The purpose of this report is to provide you with information about your drinking water. The report explains to you where your water comes from and the treatment it receives before it reaches your tap. The report also lists all of the contaminants detected in your water and an explanation of all violations in the past year.

Your drinking water comes from the Raisin River. The water is pumped from the river to the village's water treatment plant, where the water is disinfected with chlorine to kill harmful bacteria. Fluoride is not added to the water, the Raisin River has natural fluoride of 0.1 ppm to help in prevention of tooth decay and cavities. Chemicals called Alum and polymer is added to the water to help remove particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom so they can be easily removed. The water then passes through a series of sand filters to remove more particles.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general populations. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health are providers. EPA/CDC guidelines on appropriate means to lessen the risk of the infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Deerfield's drinking water comes from the River Raisin. In addition to the naturally occurring minerals in the river, erosion of the riverbank and runoff from animal or human activity on the shore can cause contaminants to be present in the river. These include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be natural or may result from storm runoff, wastewater discharges, oil and gas production and farming.
- **Organic chemicals**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can, also originate from agricultural practices, storm runoff and septic systems.
- **Radioactive substances**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

The Deerfield water plant staff collect and test water samples from the river and throughout the treatment process several times a day. These tests ensure that the proper chemical levels are maintained and that any contaminants that cannot be removed by treatment are at safe levels.

If you would like more information about your water, please call the Deerfield Water Department at 447-3158

WATER QUALITY DATA

Each year, the Village is required to sample the drinking water for various contaminants. In 2004, the village conducted over 350 tests on over 165 contaminants. The table below lists all contaminants that were detected in 2004 The state allows us to monitor for certain contaminants less than annually because the concentrations of these contaminants are not expected to change frequently. The most recent results of these tests are also included in the table.

Terms and Abbreviations:

- **Maximum Contaminant Level (MCL)**: **The** highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG)**: The level of a contaminant in drinking water below which there is no known or expected health risk.
- **Action Level (AL)**: The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **pC/l -** picocuries per liter
- **ND** – not detected
- **ppm** – parts per million or milligrams per liter
- **ppb** – parts per billion or micrograms per liter
- **N/A** – not applicable
- **TT** – treatment technique (a required process intended to reduce the level of a contaminant in drinking water.
- **NTU** – Nephelometric Turbidity Units

Contaminant	MCL	MCLG	*Deerfield Water*	Range of Detection's[1]	Sample Date	Violation	Typical Source of Contaminant
Microbial Contaminants							
Turbidity	TT=5.0[2]	N/A	*Single Highest Measurement = 0.256 NTU*	.050—0.256	2004	N0	Soil Runoff
	Lowest monthly % of samples meeting turbidity limit: 100% Annual Average Turbidity: ..077 NTU						
Inorganic Contaminants							
Nitrate	10 ppm	10 ppm	*Single Highest Measurement = 11.8 ppm*	1.00—11.8	2004	yes	Runoff from fertilizer use; leaching from septic tanks
Fluoride	4 ppm	4 ppm	*Single Highest Measurement = 0.2 ppm*	0.1-0.2	2004	N0	Erosion of natural deposits
Sodium[3]	N/A	N/A	*Average Measurement = 29.2 ppm*	23.0 45.0	2004	N/A	Naturally present in groundwater
Organic Contaminants							
Total Trihalomethanes	100 ppb	N/A	*Highest Annual average = 77.35 ppb*	50.0—131.7	2004	N0	By-product of drinking water chlorination
Atrazine	3 ppb	3 ppb	*Highest Annual average =.00036 ppb*	0.0 – 0.0022	2004	No	Runoff from herbicide used on row crops
Lead Monitoring at the Consumer's Tap							
Lead	A.L=15 ppb	15 ppb	*8.0 ppb*	0 out of 10 sites were above the a.l	9/7/03	No	Corrosion of Household plumbing systems.
Copper Monitoring at the Consumer's Tap							
Copper	AL = 1300 ppb	1300 ppb	*1330 ppb*	1 out of 10 sites were above the a.l.	9/7/03	No	Corrosion of household plumbing systems.

[1] Lead and Copper results list the number of samples that exceeded the action level, rather than the range detected.
[2] Turbidity must be less than or equal to 0.5 NTU in at least 95% of the measurements taken throughout the month. It must never go above 5.0 NTU.
[3] Sodium is an unregulated contaminant and thus there is no MCL associated with it. Unregulated contaminant monitoring helps EPA to determine whether there is a need to regulate that contaminant.

INFORMATIONAL STATEMENTS ABOUT THE CHEMICALS DETECTED IN YOUR WATER:

About Our Turbidity: Historically the raisin river has experienced very high turbidity resulting from soil runoff. The water plant is able to remove most of these particles to a level below the allowable limit of 5.0 NTU.Turbidity has no health effects, but turbidity can interfere with disinfection and provide medium for microbial growth .

ABOUT OUR NITRATE RESULTS: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider. Pregnant women and infants less than 6 months old will be advised to seek an alternative source of drinking water if nitrate levels exceed 10 ppm.. On May 6,2004 & June 16 2004 the Village of Deerfield issued a health advisory that high levels of nitrates were in the drinking water supply. This advisory was issued because nitrates were detected above the maximum contaminate level (MCL)

Trihalomethanes are a by-product of disinfection. Compliance with the MCL of 80 ppb is determined by a running annual average. In 2004 the Village of Deerfield met the MCL of 80ppb for trihalomethanes with an annual fourth quarter average of 77.3 parts per billon.As compliance standards drop it becomes more difficult for the current treatment facility to meet these standards. Deerfield in 2004 completed a successful nano filtration membrane pilot study that showed remarkable removal of disinfection byproduct and other contaminants. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Haloacetic Acids (HAA5) sample results from the fourth quarter of 2004 caused the running annual average of HAA5s to exceed the MCL of 60 parts per billon. The running annual average for the period ending December 31,2004 is 72.1 part per billon. This is not an immediate risk .If it had been ,you would have been notified immediately .However ,some people who drink water containing haloacetic acids in excess of the MCL over many year have an increased risk of getting cancer. you need not to use an alternative water supply.

If you have any questions about the chemicals in your water, please call the Village of Deerfield at 447-3158 or the Michigan Department of Environmental Quality at 517-780-7875.

QUALITY ON TAP

The Deerfield Village Council meets at 7:30 pm on the first monday of each month. Meetings are held at the Village hall at 101 West River St. Please feel free to come and participate.

The Village of Deerfield
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